

CLAIMS

We claim:

1. A method for distributing information in a MMDS network comprising:
 - a) providing a video signal in a first polarization and a first direction to a first area, the video signal having a frequency within a predetermined set of frequencies; and
 - b) providing a two-way digital signal in a second polarization and a second direction to the first area, the two-way digital signal having a frequency within the predetermined set of frequencies, wherein the second polarization is orthogonal to the first polarization.
2. The method of claim 1, wherein both the video signal and the two-way digital signal use the set of frequencies substantially simultaneously.
3. The method of claim 1, wherein the set of frequencies is a set of Multichannel Multipoint Distribution System frequencies.
4. A method for distributing information in a MMDS network comprising:
 - a) providing a video signal in a first polarization to a first area, the video signal having a frequency within a predetermined set of frequencies; and
 - b) enabling cellular communication between the first area and a second area using a two-way digital signal in a second polarization having a frequency within the predetermined set of frequencies.

5. The method of claim 4, wherein the predetermined set of frequencies is a set of Multichannel Multipoint Distribution System frequencies.

5 6. The method of claim 4, wherein the first polarization is orthogonal to the second polarization.

7. The method of claim 4, wherein the first area includes a plurality of sub-areas.

10 8. The method of claim 7, wherein the plurality of sub-areas use varying frequency bands within the predetermined set of frequencies.

15 9. The method of claim 7, wherein the plurality of sub-areas are divided into groups such that each sub-area in a group uses a frequency band different from all other frequency bands used by the other sub-areas in that group.

10. The method of claim 7, wherein each sub-area is divided into a plurality of sectors such that each sector has its own frequency band.

20 11. The method of claim 1 wherein the step of providing the two-way digital signal in a second direction reduces interference between the two-way digital signal and the video signal.

12. A system for distributing information in a MMDS network comprising:
means for transmitting digital video signals having a first polarization and a
first direction, the video signals also have a frequency within a predetermined set of
frequencies;

5 means for receiving the digital video signals;
means for transmitting two-way digital signals having a second polarization
and a second direction, the two-way digital signals having a frequency within the
predetermined set of frequencies; and
means for receiving the two-way digital signals.

10 13. The system of claim 12, wherein the means for receiving the two-way digital
signals is located within a predefined area in which the means for receiving the video signals
is located.

15 14. The system of claim 12, wherein the set of frequencies is a set of Multichannel
Multipoint Distribution System frequencies.

20 15. The system of claim 12, wherein the first and second polarizations are
orthogonal to each other.

16. The system of claim 13 wherein the means for receiving the two-way digital
signal is further located in a direction corresponding to the second direction and the means
for receiving the video signal is further located in a direction corresponding to the first

direction in order to reduce interference.

17. A system for distributing information in a MMDS network comprising:

5 a digital video signal transmitter, wherein the video signal having a first polarization, the video signal also having a frequency within a predetermined set of frequencies;

a digital video signal receiver at a receiver site;

a two-way digital signal transmitter, wherein the two-way digital signal having a second polarization, the two-way digital signal having a frequency within the predetermined set of frequencies; and

10 a two-way digital signal receiver at the receiver site, the two-way digital signal receiver oriented in a different direction than the digital video signal receiver.

18. The system of claim 17, wherein the first and second polarizations are orthogonal to each other.

19. The system of claim 17 wherein the two-way digital signal receiver is shielded at the receiver site.

20. The system of claim 19 wherein physical constructs of the receiver site provide shielding of the two-way digital signal receiver.